

Polarised Neutron Scattering Experiments at the Australian Centre for Neutron Scattering

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Neutron scattering is a powerful tool for investigating a variety of condensed-matter systems, and using spin-polarised neutrons reveals further unique information. The possibilities for performing scattering experiments with polarised neutrons at the Australian Centre for Neutron Scattering will be outlined. These span across a wide range of neutron scattering instruments including powder diffractometers, triple-axis and time-of-flight spectrometers, small-angle and reflectometry instruments, and are compatible with sample environments such as cryostats, furnaces and superconducting magnets. This gives the ability to study systems as diverse as skyrmions and protein dynamics, leveraging the abilities to either isolate the magnetic structure of samples, or to separate coherent and incoherent scattering contributions. Some recent upgrades to our technical capabilities will be described, along with some recent experimental results showing the value of this capability.